

**COURSE # DMT 1120**

Diesel Engine Operation/Tune-up Theory

**Instructor**

**Instructor:**

**Phone:**

**Email:**

**Office Hours:**

**Course**

**Course Description**

Continues the study of engine components and controls, operating systems, as well as performance factors. Provides the opportunity to study component replacement, tune-up adjustments, and preparing to run an engine under load in a dynamometer test cell. Emphasis on basic engine operating factors, and troubleshooting complaints such as low power, smoke conditions, engine faults, etc.

## Pre-requisites

It is strongly recommended that a student have a minimum ACT or Compass reading score of 16 or higher. Students need to have good reading comprehension and math skills, as they will be required to follow detailed written procedures, measure engine components, and calculate clearances.

## Weekly Lecture Hours

8

## Weekly Lab Hours

None however it is strongly suggested that DMT 112L Diesel Engine Operation/Tune-up Lab (2 credit hours) be taken concurrently with this course.

**Attention Students with Disabilities**

Students needing accommodations due to a disability, including temporary and pregnancy accommodations, should contact Accessibility Services at [accessibilityservices@uvu.edu](mailto:accessibilityservices@uvu.edu) or 801-863-8747 located in LC 312. To request ASL interpreters, please contact Katie Palmer at [kateip@uvu.edu](mailto:kateip@uvu.edu)

## Required textbooks or supplies

Textbook (Hard copy or Electronic Copy of "Fundamentals of Medium/Heavy Duty Diesel Engines" by Gus Wright – Jones & Bartlett Learning CDX Automotive ISBN 978-1-284-06705-7

**Course Objectives**

To familiarize the student with the identification, theoretical operation, maintenance, failure analysis & testing of diesel engines and their related components, fasteners, and sub-systems as described in the course description.

## Required Assignments

Study the required reading **BEFORE CLASS** & complete homework as assigned. You should also be aware that a lot of your homework is in the form of OEM web based training.

## Skills Required

Math 1260 & English 1060 or higher levels, above average mechanical ability, the ability to solve problems, and follow detailed written & verbal procedures as outlined in the text. Good math skills are required to use measuring tools to determine wear and calculate clearances.

## Policies and Procedures

**Plagiarism:** All work must be done individually and in the student’s own words. When reference material is used it must be foot noted accordingly. For further clarification, see the “Academic Responsibilities” section in the UVU General Catalog or go to <http://www.uvu.edu/policies/> for the complete policy regarding cheating & plagiarism.

**Mandatory classroom rules:**

1. No **tobacco** of any kind in the building. Also, no sunflower seeds or anything else that requires you to spit. Anyone refusing to comply with this policy will be asked to leave.
2. No radios, IPODS, MP3 players, or any other kind of device that plays music out loud.
3. The use of foul or offensive language will not be tolerated.
4. Cell phones and texting are a major distraction so please turn off all electronic media during class time.

**If your cell phone becomes a distraction during class, you get the opportunity to bring doughnuts for the whole class on the next day!**

1. Any of the following will be referred to the UVU Police Department:
   1. Theft or destruction of UVU or student tools, books, property or equipment.
   2. Any use of non-prescription drugs, alcohol, or stimulants.
   3. Fighting, harassment in any form, or disrespect of others.
   4. Improper use of UVU or personal computers or phones to view pornography in any form.
2. If you choose to sleep in this class and it becomes a distraction, you will be asked to leave. I will not be offended if you choose to stand at the back of the class if this helps you stay awake.

## Outcomes Assessment

This class is a presentation and discussion setting, however I may use any form of object or media as necessary to supplement a current topic or demonstrate a point. Anyone may be called on to give his or her input into the discussion at any time. If you feel uncomfortable asking questions in class, you are highly encouraged to see me after class send your question directly to me electronically. If you choose electronically, I will answer it openly in class the following day without disclosing who asked it.

The UVU academic standards department recommends **at least two hours of self-study** for each college credit hour taken. This theory class is a 4-credit class. This means that depending upon your individual academic ability; **you should allow yourself at least 8 hours per week outside of class** for study, homework, and web based assignments. It is possible that you may need more time than this.

**Attendance & Testing:** Attendance counts for 5% of your theory grade and is graded based upon the attendance chart in section 10. You **must be present to take a pop quiz. No make-up quizzes are given. NO EXCEPTIONS!** Quizzes come from topics recently discussed during lecture or chapter questions.

**Homework** is assigned online through CANVAS**.** It is usually due on paper and collected the day it is due at the beginning of class. If you cannot deliver your homework in person on the due date, you may send it to me electronically **BEFORE CLASS.** **Anything turned in after I collect it in class is considered late**. I will only accept homework **1 day late for half credit.** On the second day, I don’t want it.FYI, the majority of students who do poorly or fail this class do so because they miss class, do not turn assignments on time, or do not read the chapter to complete the assigned questions.

**Tests** are given in class and are not timed. I will notify you well in advance of the test date and you must be present on the assigned day to take it. Exceptions for tests may be arranged **in advance** for special circumstances. **If you simply choose to blow it off without advance notice,** **it cannot be made up** and you will take a zero. To be successful in this class, you need to have good test scores. This means you need to make it a priority to complete your assignments by yourself and study the assigned material. All Any tests administered by Canvas tests will be timed

## Grading Scale for Attendance

|  |  |
| --- | --- |
| 0 Days = 100% | 6 Days = 50% |
| 1 Day = 95% | 7 Days = 40% |
| 2 Days = 90% | 8 Days = 30% |
| 3 Days = 80% | 9 Days = 20% |
| 4 Days = 70% | 10 Days = 0% |
| 5 Days = 60% |  |

**Overall Grading scale:** Attendance = 5%, Homework = 25%, Quizzes = 15%, Written Tests = 35%,

Online Training Courses = 20%

|  |  |  |
| --- | --- | --- |
| 100 - 94 = A | 80 - 83 = B- | 69 - 67 = D+ |
| 90 - 93 = A- | 77 - 79 = C+ | 64 - 66 = D |
| 87 - 89 = B+ | 74 - 76 = C | 60 - 63 = D- |
| 84 - 86 = B | 70 - 73 = C- | Below 60 is failing |

1. **Topical Course Outline: (This is a general guideline)**

**Week 1** Lube Systems

**Week 2** Cooling Systems

**Week 3** Diesel Engine Operation

**Week 4** Diesel Engine Operation

**Week 5** Intake & Exhaust Systems

**Week 6** Intake & Exhaust Systems

**Week 7** Fuel Supply Systems

1. **Keys to Success:**
   1. Attend class every day and be on time.
   2. Turn in your assignments **on time.**
   3. **Do not miss any quizzes or tests.**
   4. Ask questions for clarification, preferably in class while a topic is being covered.
   5. Study your reading assignments **BEFORE** class.
   6. Be prepared for quizzes at any time.
   7. Find a study partner and quiz each other daily about lecture or textbook topics.
   8. **Do your own work.** Don’t cheat yourself by cheating from others.
   9. Don’t sleep in class.
2. **NOTE:** **This syllabus is a general guideline for this course and not a contract.** Although it is not very common, I reserve the right to make changes to anything including grading **at any time** throughout the duration of this class. Please keep your personal information current in UV Link so I can easily contact you should I make any significant changes to this course.